

# Quantitative Methods in Psychology

## Summer 2015

**01:830:200:B1**

**MTWTh 10:55 AM - 1:25 PM**

**HLL 116, Busch Campus**

Instructor: Ruthy Glass

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Office Hours: By appointment

**Required Textbook:** Gravetter, F. J., & Wallnau, L. B. *Statistics for Behavioral Sciences* (9<sup>th</sup> Ed. ISBN 13: 978-1-111-83099-1; ISBN-10: 1111830991)

**Course Overview / Learning Goals:** The purpose of this course is to introduce you to a number of statistical concepts used in psychological research, among other research disciplines. Upon successful completion of this course, students will be able to:

- Understand the strengths and weaknesses of common research designs
- Effectively manage data sets
- Compute a number descriptive and inferential statistics
- Understand the conceptual basis of hypothesis testing and calculate and interpret statistical tests such as the *t*-test and ANOVA
- Be able to choose the appropriate statistical procedures given a particular research situation

These skills are essential for critically assessing research articles, as well as conducting your own research.

**Grading:** Course grades will be based on the following:

Homework (3/4)	12 points
Quizzes (3)	18 points
Exams (2)	40 points
<u>Final Exam (1)</u>	<u>30 points</u>
Total	100 points

Your course grade will be determined by the following grading scale\*:

88-100	A
84-87	B+
79-83	B
75-78	C+
70-75	C
65-69	D
64 and below	F

**\*NOTE: THIS GRADING SCALE IS SUBJECT TO CHANGE**

**Reading and Homework Assignments:** You are expected to read the assigned chapter prior to the class in which the material is discussed. It may be helpful to use select “Demonstration” sections and review problems in the text to reinforce the material as you are reading. In addition to the reading, homework assignments will be given that are to be completed following each lecture. You will be given some time at the end of each class to work on the homework assignments. They will be due at the beginning of the next class.

You should print out the homework assignments, which can be found on the course's sakai site, and bring them to the class in which the corresponding lecture is given. You'll need to have the homework assignments to work on following the lecture. You will be allowed to skip one homework assignment or I will choose the best three out of four homework assignments and use them towards your grade. Late homework assignments will receive 1 point off for every class they are late.

**Attendance:** You should attend all classes in this course. Although attendance will not be formally monitored, it is in your best interest to come to class prepared. That means you should have read the assigned chapter prior to class, have completed any homework assignment that is due that day, and have a copy of the following homework assignment so you can work on it at the end of class. If you are absent on a day where homework is checked, you will need to speak to me about it.

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Absence from a scheduled quiz or exam should occur only under the most serious of circumstances. Make-up quizzes or exams will be given only for absences that are deemed excused. Excused absences will require written and signed documentation, and it will be left to my discretion whether a make-up is warranted. Make-ups must be taken within a week of the missed quiz or exam, as you will lose the opportunity to make it up after the week has passed. In addition, make-up exams may be more difficult than the original test.

**Calculator:** A calculator may be used on all homework assignments, quizzes, and exams. It should be able to perform square and square root functions. Please bring it to class.

**Academic Integrity:** Students are expected to adhere to the University's regulations regarding academic integrity, which can be found at the following web address:

<http://academicintegrity.rutgers.edu/integrity.shtml>

**NOTE: ANY INFORMATION IN THIS SYLLABUS IS SUBJECT TO CHANGE. ANY CHANGES WILL BE ANNOUNCED IN CLASS AND ON THE COURSE'S SAKAI SITE.**

Schedule of Classes

May 26<sup>th</sup>

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1. Introductions
  2. Syllabus
  3. Introduction to statics (*Chapter 1*)
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May 27<sup>th</sup>

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1. Frequency Distributions (*Chapter 2*)
  2. Central Tendency (*Chapter 3*)
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May 28<sup>th</sup>

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1. Variability (*Chapter 4*)
2. Z-Scores (*Chapter 5*)

**Homework #1**

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June 1<sup>st</sup>

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1. Probability (*Chapter 6*)

**Homework #1 due**

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June 2<sup>nd</sup>

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**Review for Exam**

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June 3<sup>rd</sup>

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**STUDY DAY**

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June 4<sup>th</sup>

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**EXAM #1**

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June 8<sup>th</sup>

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1. Distribution of sample means (*Chapter 7*)
  2. Introduction to Hypothesis Testing (*Chapter 8*)
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June 9<sup>th</sup>

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1. t-Tests (*Chapter 9*)

**Homework #2**

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June 10<sup>th</sup>

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**Quiz #1**

1. Independent Samples t-test (*Chapter 10*)
2. Related samples t-test (*Chapter 11*)

**Homework #2 due**

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June 11<sup>th</sup>

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**Review for Exam**

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June 15<sup>th</sup>

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**STUDY DAY**

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June 16<sup>th</sup>

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**EXAM #2**

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June 17<sup>th</sup>

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1. ANOVAs (*Chapter 12*)
  2. Post-hoc tests (*Chapter 12*)
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June 18<sup>th</sup>

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1. Repeated measures ANOVA (*Chapter 13*)
  2. Two-factor ANOVA (*Chapter 14*)

**Homework #3**

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June 22<sup>nd</sup>

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**Quiz #2**

1. Correlations (*Chapter 15*)

**Homework #3 due**

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June 23<sup>rd</sup>

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1. Regression (*Chapter 16*)
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June 24<sup>th</sup>

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1. Non-parametric Tests: Chi-square (*Chapter 17*)

**Homework #4**

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June 25<sup>th</sup>

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1. Make-up
  2. Review for Final #1 (Chapters 1-10)

**Homework #4 due**

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June 29<sup>th</sup>

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1. Review for Final #2 (Chapters 11-17)
  2. Answer any lingering questions
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June 30<sup>th</sup>

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**STUDY DAY**

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July 1<sup>st</sup>

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**FINAL EXAM** (cumulative)

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**HAVE A GREAT REST OF YOUR SUMMER!!!**